January 2, 1950.

Dr. E. F. Haskell,
438 West 116 Street,
New York 27, N. Y.

Dear Dr. Haskell:

I am very much afraid that the task of a critical examination of your presentation and Dr. Dodd's generalization of coaction theory is far beyond my means, both of intellectual preparation and of time. Because I am entirely unacquainted with your field, even a superficial reading of the papers has taken much more time than I can afford to spend, and I am afraid that even if I spent an unlimited amount of time and effort on it, I could not give you an informed critàcism.

I think that I understand the main point of your two-dimensional coordinate system, and to a limited extent, the advantages of expression in a vectorial as well as a rectilinear form. The rotation of axes that Dodd proposes had occurred to me while reading your paper, but it seems to be a formalism that makes little difference. I think that I would concur with Dodd (and again, this was an anticipation of his remarks) that the greatest difficulty lies in the definition of the "strong" and "weak" members of the society, the separation of which is basic to your approach. I am not sure that this is what Dodd does, but my approach to this problem would be separate the individual members, and to express the totality of his relationships to every other individual. For a predatory individual in a predator-prey relationship, this would mean n-1 terms which in the "pure" case, would be r terms and s terms where r+s = n-1 , and n is the entire population size. These n-1 terms would have to be summed for each of the n individuals (i.e., a total of n(n-1) terms) according to suitably defined rules. If I understand Dodd correctly, the second moment of the distribution of these terms would provide an objective measure of the coaction. However, I cannot tell you whether this is what Dodd does, or whether he does it well. I am certain that the proposal of such a generalization need not imply any disparagement of the coaction theory that underlies it. To an outsider like myself, Dodd's paper seems rather unclear, but I did not read your paper without difficulty either, so this judgment is irrelevant.

For the present, I am notvenclosing the mimeographed material, in order to expedite the return of the other items. Please let me know whther you would like your mimeographed paper back.

If reprints of these papers should become available, I would appreciate receiving copies, so that I can study them at leisure.

Yours sincerely,

Joshua Lederberg
Assistant Professor of Genetics